

10/500025

Express Mail Label Number ER568751077US

DT09 Rec'd PCT/PTO 22 JUN 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Gerd Roland MEYER, et al. : Attorney Docket: 2001DE454

Serial No.: to be assigned :

Filed: June 22, 2004 :

For: Aqueous Plant-Protection Formulations

Transmittal Letter

Notification of Amendments Under PCT Article 34


Mail Stop: PCT
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Preliminary to the examination of the above-identified application, an Amendment was filed under Article 34 of the Patent Cooperation Treaty prior to the International Preliminary Examination. Please note that the attached pages 14 – 18 of the claims were filed with the European Patent Office. We enclose a copy of the above-mentioned pages for your convenience.

Applicant respectfully requests submission of these pages before examination of the application and before entry of the Preliminary Amendment.

Respectfully submitted,

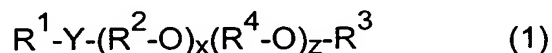

Anthony A. Bisulca
Attorney for Applicant
Registration No. 40,913

(CUSTOMER NUMBER 25,255)

Clariant Corporation
Industrial Property Department
4000 Monroe Road
Charlotte, NC 28205
Phone 704 331-7151
Fax 704 331-7707

Bas'd PCT/PTO 22 JUN 2004
WHAT IS CLAIMED:

1. An aqueous plant protection formulation comprising
 - i) at least one polymer which can be prepared by radical copolymerization of
 - A) acrylamidopropylmethylenesulfonic acid (AMPS) and/or its salts;
 - B) one or more macromonomers comprising
 - i) a terminal group which is capable of polymerizing and which is at least partially soluble in the reaction medium,
 - ii) a hydrophobic part which is hydrogen or a saturated or unsaturated, linear or branched, aliphatic, cycloaliphatic or aromatic (C₁-C₁₀₀)-hydrocarbon residue, and
 - iii) optionally a hydrophilic part based on polyalkylene oxides, and
 - C) optionally one or more other at least mono- or polyolefinically unsaturated oxygen-, nitrogen-, sulfur-, phosphorus-, chlorine- and/or fluorine-comprising comonomers,
 - ii) at least one pesticide and
 - iii) at least one agrochemical salt.
2. A plant protection formulation as claimed in claim 1, wherein the comonomer A) is the sodium salt and/or ammonium salt of acrylamidopropylmethylenesulfonic acid (AMPS).
3. A plant protection formulation as claimed in claim 1 and/or 2, wherein the macromonomers B) are those according to formula (1)



in which

R¹ is a vinyl, allyl, acryloyl, methacryloyl, seneciroyl or crotonyl residue;

R² and R⁴ are, independently of one another, (C₂-C₄)-alkylene;

x and z are, independently of one another, an integer between 0 and

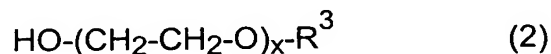
500, preferably with $x+z$ greater than or equal to 1;
 Y is O, S, PH or NH, preferably O; and
 R^3 is hydrogen or a saturated or unsaturated, linear or branched,
 aliphatic, cycloaliphatic or aromatic (C_1 - C_{100})-hydrocarbon
 residue, preferably (C_1 - C_{30})-hydrocarbon residue.

4. A plant protection formulation as claimed in claim 3, wherein
 R^1 is an acryloyl or methacryloyl residue;
 R^2 and R^4 are, independently of one another, C_2 -alkylene or C_3 -alkylene;
 10 x and z are, independently of one another, an integer between 0 and
 50, preferably with $x+z$ greater than or equal to 1;
 R^3 is an aliphatic (C_4 - C_{22})-alkyl or -alkenyl residue, preferably
 (C_{10} - C_{22})-alkyl or -alkenyl residue;
 a phenyl residue;
 15 a (C_1 - C_{22})-alkylphenyl residue, preferably sec-butyl- or
 n-butylphenyl residue;
 a poly((C_1 - C_{22})-alkyl)phenyl residue, preferably tris(sec-
 butyl)phenyl residue or tris(n-butyl)phenyl residue; or
 a polystyrylphenyl residue, preferably tristyrylphenyl residue.

20 5. A plant protection formulation as claimed in claim 4, wherein the R^3
 residue is a 2,4,6-tris(sec-butyl)phenyl residue or 2,4,6-tris(1-phenylethyl)-
 phenyl residue.

25 6. A plant protection formulation as claimed in claim 1, wherein the
 polymers can be prepared by radical copolymerization of
 A) acrylamidopropylmethylenesulfonic acid (AMPS), the sodium salt of
 acrylamidopropylmethylenesulfonic acid (AMPS) and/or the
 ammonium salt of acrylamidopropylmethylenesulfonic acid,
 30 preferably the ammonium salt of acrylamidopropylmethylenesulfonic
 acid (AMPS);
 B) one or more macromonomers chosen from the group of the esters
 formed from methacrylic acid or acrylic acid, preferably methacrylic
 acid, and compounds of the formula (2)

35



in which x is a number between 0 and 50, preferably 1 and 50, particularly preferably 5 and 30, and R³ is a (C₁₀-C₂₂)-alkyl residue; and

- 5 C) optionally one or more comonomers chosen from the group consisting of acrylamide, vinylformamide, N-vinylmethacrylamide, sodium methallylsulfonate, hydroxyethyl methacrylate, acrylic acid, methacrylic acid, maleic anhydride, methacrylamide, vinyl acetate, N-vinylpyrrolidone, vinylphosphonic acid, styrene, styrenesulfonic acid (Na salt), t-butyl acrylate and methyl methacrylate.

10

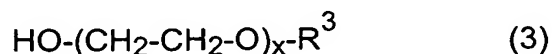
7. A plant protection formulation as claimed in at least one of claims 1 to 6, wherein the macromonomers B) are esters formed from acrylic acid or methacrylic acid and alkyl ethoxylates chosen from the group of the (C₁₀-C₁₈)-fatty alcohol polyglycol ethers with 8 EO units, C₁₁-oxo alcohol polyglycol ethers with 8 EO units, (C₁₂-C₁₄)-fatty alcohol polyglycol ethers with 7 EO units, (C₁₂-C₁₄)-fatty alcohol polyglycol ethers with 11 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 8 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 15 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 11 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 20 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 25 EO units, (C₁₈-C₂₂)-fatty alcohol polyglycol ethers with 25 EO units, iso(C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 25 EO units and/or C₂₂-fatty alcohol polyglycol ethers with 25 EO units.

- 25 8. A plant protection formulation as claimed in claim 1, wherein the polymers can be prepared by radical copolymerization of

- A) acrylamidopropylmethylenesulfonic acid (AMPS), the sodium salt of acrylamidopropylmethylenesulfonic acid (AMPS) and/or the ammonium salt of acrylamidopropylmethylenesulfonic acid, preferably the ammonium salt of acrylamidopropylmethylenesulfonic acid (AMPS);

- 30 B) one or more macromonomers chosen from the group of the esters formed from methacrylic acid or acrylic acid, preferably methacrylic acid, and compounds of the formula (3)

35



in which

x is a number between 0 and 50, preferably 1 and 50, particularly preferably 5 and 30, and

R^3 is a poly((C₁-C₂₂)-alkyl)phenyl residue, preferably tris(sec-butyl)phenyl residue or tris(n-butyl)phenyl residue, particularly preferably 2,4,6-tris(sec-butyl)phenyl residue, or a tris(styryl)phenyl residue, preferably 2,4,6-tris(1-phenylethyl)phenyl residue; and

5

C) optionally one or more comonomers chosen from the group consisting of acrylamide, vinylformamide, N-vinylmethacetamide, sodium methallylsulfonate, hydroxyethyl methacrylate, acrylic acid, methacrylic acid, maleic anhydride, methacrylamide, vinyl acetate, N-vinylpyrrolidone, vinylphosphonic acid, styrene, styrenesulfonic acid (Na salt), t-butyl acrylate and methyl methacrylate.

10

9. A plant protection formulation as claimed in at least one of claims 1 to 8, wherein the proportion of macromonomers B) in the polymers is 50.1 to 99.9% by weight, preferably 70 to 95% by weight, particularly preferably 80 to 94% by weight.

15

10. A plant protection formulation as claimed in at least one of claims 1 to 8, wherein the proportion of macromonomers B) in the polymers is 0.1 to 50% by weight, preferably 5 to 25% by weight, particularly preferably 6 to 20% by weight.

20

11. A plant protection formulation as claimed in at least one of claims 1 to 9, wherein the number-average molecular weight of the polymers is 1000 to 20 000 000 g/mol, preferably 20 000 to 5 000 000 g/mol, particularly preferably 50 000 to 1 500 000 g/mol.

25

12. A plant protection formulation as claimed in at least one of claims 1 to 11, wherein the polymers are crosslinked.

30

13. A plant protection formulation as claimed in at least one of claims 1 to 12, the copolymerization being a precipitation polymerization, preferably in tert-butanol.

35

14. A plant protection formulation as claimed in at least one of claims 1 to 13, which comprises, based on the ready-mix formulation, 0.01 to 10% by weight, preferably 0.01 to 5% by weight, of polymers.

15. A plant protection formulation as claimed in at least one of claims 1 to 14, wherein the water content, based on the ready-mix formulation, is 5 to 60% by weight, preferably 5 to 50% by weight, particularly preferably 5 to 30% by weight.
- 5
16. A plant protection formulation as claimed in at least one of claims 1 to 15, wherein the solubility in water of the pesticides is greater than 800 g/l, preferably greater than 1000 g/l.
- 10
17. A plant protection formulation as claimed in at least one of claims 1 to 16, wherein the pesticides are ionogenic pesticides.
18. A plant protection formulation as claimed in at least one of claims 1 to 17, wherein the pesticides are glyphosate, sulphosate and/or glufosinate.
- 15
19. A plant protection formulation as claimed in at least one of claims 1 to 18, wherein the proportion of pesticides, based on the ready-mix formulation, is 5 to 85% by weight, preferably 25 to 60% by weight.
- 20
20. A plant protection formulation as claimed in at least one of claims 1 to 19, wherein the agrochemical salts are inorganic fertilizers, preferably ammonium salts and/or phosphates.
21. A plant protection formulation as claimed in at least one of claims 1 to 20, wherein the proportion of agrochemical salts, based on the ready-mix formulation, is 5 to 85% by weight, preferably 25 to 60% by weight.
- 25
22. A plant protection formulation as claimed in at least one of claims 1 to 21, which is free from organic solvents.
- 30
23. A plant protection formulation as claimed in at least one of claims 1 to 22, which is a soluble liquid (SL) or a soluble concentrate.